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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/977,154	10/12/2001	Hugh S. West JR.	14000.11	3848

7590

05/20/2004

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EXAMINER

RAMANA, ANURADHA

ART UNIT	PAPER NUMBER
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3732

11

DATE MAILED: 05/20/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/977,154

Applicant(s)

WEST, HUGH S.

Examiner

Anu Ramana

Art Unit

3732

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 19 March 2004.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-18, 20, 21 and 23-32 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-18 and 20-21 and 23-32 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION***Continued Examination Under 37 CFR 1.114***

A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on March 19, 2004 has been entered.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-18, 20-21, 23-24, 28-29, 31 and 32 are rejected under 35 U.S.C. 103(a) as being unpatentable over Miller (US 2,382,019 or '019) in view of Rieser et al. (US 6,387,129 or '129).

'019 discloses a threaded body extending between a proximal end 1 and a distal end 7 with a proximal section 2 having a proximal thread 3 and a distal threaded section 4 having a screw thread 5 of the same number of convolutions per inch (or pitch) as the proximal section 2 and a tapered transition section (Fig. 1 and lines 27-49).

'019 also discloses that proximal end 1 can be any desired form or entirely omitted.

'019 does not disclose that proximal end 1 can be angled.

'129 teaches providing an angled back or "end" to a screw so that it can be oriented substantially flush with the outer surface of the bone in which it is placed (Fig. 3 and 4, col. 2, lines 41-47 and col. 4, lines 4-5).

Accordingly it would have been obvious to one of ordinary skill in the art at the time the invention was made to have provided the '019 screw with an angled proximal end, as taught by '129, so that the '019 screw would be flush with the outer surface of the bone in which it is

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placed. Further, it would have been obvious to one having ordinary skill in the art at the time the invention was made to have provided the proximal end of the '019 screw with an angle within a range of 10 to 80 degrees or 20 to 60 degrees or 30 to 40 degrees, since it has been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art. *In re Aller*, 105 USPQ 233.

'129 also teaches sizing screw 20 for placement in a bone tunnel (col. 4, lines 62-65).

Accordingly it would have been obvious to one of ordinary skill in the art at the time the invention was made to have made the '019 screw of an appropriate length and size, as taught by '129, for placement in a bone tunnel.

Further, it is the Examiner's position that it would have been an obvious matter of design choice to have changed the size (length or diameter) of the screw of the combination of '019 and '129 to match the size of a bone tunnel into which it is placed, since such a modification would have involved a mere change in the size of a component. A change in size is generally recognized as being within the level of ordinary skill in the art. *In re Rose*, 105 USPQ 237 (CCPA 1955).

Regarding claim 2, '129 teaches providing a hexagonal socket 28 in screw 20 for receiving the hexagonal tip 80 of a driver 70 (Figs. 1 and 8, col. 4, lines 13-18 and col. 5, lines 23-31).

Regarding claim 13, it would have been obvious to one having ordinary skill in the art at the time the invention was made to have made the screw of the combination of '019 and '129 of a material such as titanium, since it has been held to be within the general skill of a worker in the art to select a known material on the basis of its suitability for the intended use, herein placement within a human body, as a matter of obvious design choice. *In re Leshin*, 125 USPQ 416.

Regarding claim 16, interference screws have a length in a range of about 8 mm to 70 mm (see cited US 6,045,554, col. 3, lines 48-54). It would have been an obvious matter of design choice to have changed the size of the screw of combination of '019 and '129, depending on the particular use, since such a modification would have involved a mere change in the size of a component. A change in size is generally recognized as being within the level of ordinary skill in the art. *In re Rose*, 105 USPQ 237 (CCPA 1955).

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Regarding claim 23, '019 shows proximal threaded section 2 as having a length. It would have been an obvious matter of design choice to have made the length of the proximal threaded section 5 mm, depending on the bone in which the screw of the combination of '019 and '129 is placed, since such a modification would have involved a mere change in the size of a component. A change in size is generally recognized as being within the level of ordinary skill in the art. In re Rose, 105 USPQ 237 (CCPA 1955).

Claim 25 is rejected under 35 U.S.C. 103(a) as being unpatentable over Luks et al. (US 6,368,322 or '322) in view of Wagner et al. (US 6,565,566 or '566).

'322 discloses an interference screw 10 having a length of 10-35 mm wherein screw 10 has portions of varying diameter. '322 also discloses using screw 10 for wedging soft tissue inside a bone tunnel, for example during an ACL procedure (Figs. 1, 5-6 and 9, col. 3, lines 58-65, col. 4, lines 28-32 and lines 59-67 and col. 5, lines 1-9).

'322 does not disclose that the portions of varying diameter have constant thread depth.

'566 teaches a screw 22 having portions of variable diameter wherein the variable diameter portions can have variable thread depth or constant thread depth depending on the purchase required in soft bone tissue (Fig. 2a and col. 4, lines 22-33).

Accordingly it would have been a matter of obvious design choice to one of ordinary skill in the art at the time the invention was made to have provided a constant thread depth to screw 10 of '322, as taught by '566, depending on the purchase required in soft bone tissue.

The method steps of claim 25 are rendered obvious by the above discussion.

Claims 26-27 and 30 are rejected under 35 U.S.C. 103(a) as being unpatentable over Miller (US 2,382,019 or '019) in view of Rieser et al. (US 6,387,129 or '129) and Wagner et al. (US 6,565,566 or '566).

'019 and '129 are silent about thread depth.

'566 teaches a screw 22 having a variable thread depth or a constant thread depth depending on the purchase required in soft bone tissue (Fig. 2a and col. 4, lines 22-33).

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Accordingly it would have been a matter of obvious design choice to one of ordinary skill in the art at the time the invention was made to have provided a constant thread depth to the screw of the combination of '019 and '129, as taught by '566, depending on the purchase required in soft bone tissue.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.


Any inquiry concerning this communication or earlier communications from the examiner should be directed to Anu Ramana whose telephone number is (703) 306-4035. The examiner can normally be reached Monday through Friday between 8:00 am to 5:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Kevin Shaver can be reached (703) 308-2582. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

AR

Anu Ramana
May 16, 2004


EDUARDO C. ROBERT
PRIMARY EXAMINER